

**THE DEPARTMENT OF HUMANITIES AT
COOPER UNION**

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Progressive schools of engineering have been concerned for some time with the tendency of engineering education to become more and more specialized in terms of technical training. Like many other educators, the administration and faculty of Cooper Union Schools of Engineering feel that the complexities of modern society and industry demand of graduates of engineering schools a broad human outlook and qualities of personality that will enable them as members of the engineering profession to achieve and exercise the leadership which should be theirs.

In an effort, therefore, to broaden the training of its undergraduates Cooper Union has initiated a Department of Humanities this year. The manner in which this Department is approaching its problems may be of some interest to other institutions which are working in similar directions.

It goes without saying that the newly formed Department of Humanities believes most firmly in the philosophy of education which aims to awaken cultural and social responsibility in those who are being trained for leadership in the engineering sciences. It feels that its duty is to translate that philosophy into practical terms and to apply it as an essential part of the education and training of the students of the engineering schools at Cooper Union.

Translating its broad aims into specific objectives the Department feels that there are three main functions which it must perform:

1. It must provide a background for the proper understanding of the present day social world.

2. It must teach certain skills of a non-technical nature which will make the application of technical knowledge more efficient.

3. It must develop a respect for and an appreciation of those values which mark the cultured and civilized human being.

The major changes in the curriculum have been made with these ends in mind. Moreover, in making them, consideration has been given to the need of a program integrated enough to achieve the objectives efficiently and at the same time elastic enough to include the best of what already has been done and to allow for expansion in terms of additional courses and effort hours.

In the Freshman year of the Day School, five hours of class work plus five hours of preparation have been allotted to the Humanities. These hours are being devoted to a study of Western Civilization and English Composition. The class meets as a whole for one hour and in sections for the other four. In Western Civilization the emphasis is placed on the social, economic and intellectual history of Europe and the United States since the breakup of the Middle Ages. Along with its study of the history of the modern period, the class becomes acquainted with the important contemporary figures of literary and social significance. The meeting of the class as a whole once a week is devoted to a lecture in which the instructor attempts to sketch out broadly some specific area of historical or literary importance. If, for example, the French Revolution is under consideration, the lecturer, not unmindful of the tumbrils and guillotine, points out the scientific and intellectual revolutions that preceded the events of 1789, and stresses the connection with the middle class revolts of 1688 in England and 1776 in America. Then in the section meetings the student is encouraged to discuss these events, using his texts as handbooks of references for factual data and his readings of such works as Voltaire's "Candide" or Rousseau's "Social Contract" for a finer understanding and appreciation of what hitherto has been a succession of unrelated facts.

At the same time the theory and practice of English Composition, for which one hour is set apart, is correlated by using as subjects of oral and written themes topics drawn from Western Civilization. In addition the transfer value of freshman composition is increased by weekly sample checks of freshman physics laboratory reports.

The freshman course has been designed to serve as an introduction and not as something definitive. It is the feeling of the Department that from it the student should be directed to continue with as much freedom as possible along the lines in which his interest has been awakened. If he has found history a subject cap-

able of widening his vision he should have a choice of courses in which he can delve more deeply into the events and patterns of some significant era. If he has discovered that great books give him understanding, then he should have the opportunity to explore literary fields wherein he may find joy and wisdom. It is hoped, therefore, that eventually the Humanities staff will be permitted to offer a wide variety of subjects from which the student may elect to pursue a reasonably self-determined field for study.

As a first step towards this goal, the sophomore may choose a half year's work in American Government or a half year of American Literature. If he elects literature he studies the literary developments in America in relation to the background of European literature and of social influences operating in America. If he chooses government, he surveys the present day structure and function of the national and local governments of the United States.

The other semester, the second year student devotes to Public Speaking, in which course he receives practice in oral English and speech to the end that he may acquire poise, self-confidence and the ability to use the language free from startling variants of local origin. Although this subject was introduced in September, and hence has been a part of the curriculum only a short time, it already comes under the heading of "required subjects." Probably no course has been as warmly welcomed by the engineering departments as this one. Its title is a poor one for between it and the elocution which it so often connotes there is little connection. Instruction emphasizes not speech-making but discussion and conversation, pointed, direct and confident. Supplementing the class room hours, the instructors in Public Speaking visit those engineering classes in which oral reports are given. Here they receive cordial welcome from engineering professors long distracted by bad habits and hesitancies of speech.

By virtue of his special needs, the Chemical Engineer studies German during his second year. This course has been revamped to some extent in order that its cultural value might be enhanced, by requiring in addition to scientific German a rapid reading of some literary German. Moreover in order to acquaint the student with the great wealth of German history, literature and culture there has been formed a German Club which meets informally to talk in German about pre-Hitler German Kulturkunde.

In order to introduce the student to the basic principles of economic problems, a two hour course in Economics is taken by the third year student. This course has been revised recently, brought up to date and is modelled after a similar course at M. I. T. where it has proved successful.

The senior year in Humanities is devoted to the Colloquium in Social Philosophy, introduced last year largely out of the instructor's personal experience with the General Honors Course at Columbia College and various reading groups which were carried on for some years by the Peoples Institute at Cooper Union. It proved its success last year and is being continued this year. In the colloquia which meet in small groups the seniors discuss questions of logic, psychology, philosophy and literature based on their readings of well-chosen and stimulating books, such as, Sarton's "The History of Science and the New Humanism," Bacon's "The New Atlantis," Stebbing's "Thinking to Some Purpose," Smith's "On Reading Shakespeare," Plato's "The Symposium," Hayes' "Essays on Nationalism," and Russell's "Power." The sections are purposely kept small, averaging about a dozen students who come together in an easy informal manner as devoid of the conventional class room atmosphere as limited facilities permit.

In the Night School two class hours per year for five years are allotted to the Department of Humanities. Unlike the usual English composition course, the Freshman work is based on American history and literature: an attempt is made to give the student an understanding of the forces which have brought about the social and political development of the United States. Readings in American history take the place of the more conventional readings found in most colleges. Thus, as in the Day School's course in Western Civilization, practice in writing and speech becomes a means of achieving not only a clear and cogent style of expression but also a background for social awareness. This integration of history and English calls for much effort and alertness from the instructors but that they have met the challenge is evidenced in the frequent expressions of regret by upperclassmen that they did not have the course as freshmen.

Together with the introduction of sociology in the second year and of economics in the fourth, the first year course just described constitutes the most radical change in the Night School. Other courses are designed largely to give specialized training in accounting, engineering law, etc. These have tremendous value especially to Night School students who are already in industry. However, they must be supplemented in the immediate future by wider training in the arts, literature and social sciences.

The above in short is what is being done in the Schools of Engineering. In a school such as Cooper Union, situated in a metropolitan area, the problems which a Department of Humanities is meant to remedy are much more acute than in less populous, less urban areas. That this is true is revealed by the results of a

testing program which the Department has completed. On the basis of standardized cultural background tests it has been discovered that Cooper Union freshmen have a much greater knowledge of science and mathematics than the average student of Class A colleges. Their accomplishments in English and the social sciences however fall far below their extremely high standards in the natural sciences. These conclusions indicate very clearly the need for an expanded program of humanities. The long hours of commuting provide time for the student's perusal of newspaper headlines from which he gets only the most superficial knowledge of the social sciences. Such a situation makes imperative a course of study that will give him the background necessary for mature judgment and understanding. At the same time the professional associations which he must make in order to be successful and happy are closer knit when he can possess and share in that heritage of literature and arts which is the hall-mark of a cultured person.

To find the best method whereby the Cooper Union student of engineering can achieve this background and familiarity within the exacting limits of time and facilities is what the Cooper Union Department of Humanities regards as its chief justification for its experiments and innovations.

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